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REMARKS ON THE GENUS *HYSTRICHOPSYLLA* TASCH. WITH  
DESCRIPTION OF A NEW SPECIES. (SIPHONOPTERA.)

BY EDWARD A. CHAPIN, *Washington, D. C.*

Through the kindness of Dr. Gordon F. Ferris, of Stanford University, I have received three specimens of a flea of the genus *Hystrichopsylla* Tasch. which appears to be undescribed. I describe it herewith as

***Hystrichopsylla mammoth*, n. sp.**

♂ *Head*.—The frontal notch is shallow and is quite low down on the anterior margin of the head. On the front part of the head there are many bristles. Of these bristles, seven are placed in a row from the base of the antenna forward to a point a little below the frontal notch. There are two strong bristles on the anterior edge of the antennal groove above the eye spot and one at the base of the maxillary palpus and there is one more at about the center of the space included by the bristles. In addition to these, there are many smaller hairs on the lower half of the frons. The eye is not pigmented but is indicated merely by a thickening of the chitin. The genal ctenidium is of six stout spines and occupies about the anterior half of the genal margin. The posterior angle of the gena is heavily chitinized and somewhat prolonged. The occiput bears two rows of bristles, the first (anterior) row of three and the second of five (with several much smaller bristles in the line). The marginal row of spines contains about thirteen on either side of the median line. The rostrum reaches almost to the apex of the fore coxa.

*Thorax*.—The pronotum bears on its posterior margin a ctenidium of about thirty-six spines or pairs of spines. That is, commencing with the fourteenth spine from either side, the dorsal spines are very irregular but appear to be grouped in pairs, one superimposed upon the other. The hairs on the meso- and metathoraces are numerous. On the mesothorax, no order of arrangement is maintained but on the metathorax the hairs are in five rows. The metepimeron bears a vertical row of five large hairs directly below the metathoracic spiracle. There are many other and smaller hairs on the sclerite. On the mesosternum there is one very large hair.

*Abdomen*.—The tergites are thickly set with spinous hairs, the more posterior of which are in rows. On the second, third and fourth tergites, along the posterior margin there are rows of very short conical teeth, the numbers being in order 7, 2, 2. The antepygial bristles are three on each side. Sternites III to VII are thickly set, toward their posterior borders with many hairs.

*Legs*.—The spines and hairs which adorn the legs of this species are similar

in texture to those in the case of other species and their location is but slightly different. The longest apical spine on the posterior tibia is about two-thirds the length of the first tarsal segment. The plantar bristles of all the tarsi are arranged in five pairs, all lateral. The relative lengths of the tarsal segments are shown by the following table:

Legs.	Segments 1-5.				
I	24	14	10	8	17
II	36	22	12	8	17
III	68	52	30	18	24

*Modified segments.*—The eighth sternite is produced posteriorly into a scoop-shaped process, thickly set with fine short hairs. The ninth sternite is club shaped and on the ventral margin toward the apex there are a number of stout teeth, mostly in pairs. The movable finger of the clasper is elongate, thickest slightly beyond the middle. On either side, toward the posterior margin there is a straight row of about fifteen hairs, reaching from the apex to about basal third. The fixed process is obliquely rounded above and bears a few hairs. The eighth tergite is trapezoidal in shape, with many long bristles and shorter hairs toward the upper portion.

♀ Essentially similar to the male in vestiture. Antepygial bristles are four on each side. Compared with *H. schefferi* Chapin, its length is one-third greater, conical teeth of the abdominal segments are 7, 2, 2 instead of 8, 4, 3, and the body of the receptaculum seminis is nearly square (11:10) instead of rectangular (14:8).

Length: ♂ 7.38 mm.; ♀ 7.53 mm.

*Types.*—Type ♂, Allotype ♀ collected off *Aplodontia californica* Peters, at Mammoth, Mono County, California, July, 1917, by A. B. Howell. Paratype taken at Indian Canyon, Yosemite National Park, California, probably from *Aplodontia* sp. by Dr. G. F. Ferris. Type and paratype in Collection Ferris, allotype in my collection.

At this time it seems best to correct an unfortunate error in my description of *H. schefferi*. Owing to the contracted condition of the specimen it is almost impossible to determine the exact limits of the abdominal tergites. The small combs of short conical teeth do not occur on the third, fourth and sixth segments as stated but on the second, third and fourth as in the present species.

There are now four species of this genus known, of which one is palaeartic in range (*H. talpae* Curtis). The remaining three are found in western North America. For specimens of *H. dippiei* Rothsch., I am indebted to Mr. J. O. Martin of Berkeley, Calif., who has collected this species in the nests of *Neotoma fuscipes*. The following key will serve to separate the four species.

1. Ctenidia of abdominal tergites composed of small tooth-like spines which are in close-set rows; genal ctenidium of more than ten spines; palaeartic. .... *H. talpae* Curtis.

- Ctenidia of abdominal tergites composed of small spines which are not in close-set rows; genal ctenidium of 6-7 spines; nearctic..... 2.
2. Pronotal ctenidium of 46 spines; body of receptacula seminis more than 210  $\mu$  long..... *schefferi* Chapin.  
 Pronotal ctenidium of 36-38 spines; body of receptacula seminis less than 210  $\mu$  long..... 3.
3. Body of receptacula seminis 184-199  $\mu$  long; nine bristles in upper row on frons..... *mammoth* Chapin.  
 Body of receptacula seminis 169  $\mu$  long; seven bristles in upper row on frons..... *dippiei* Rothsch.

For convenience, the exact dimensions of the receptacula seminis in the three species before me are given in the following table. As there are two receptacula in each female in the species of this genus, two columns of dimensions have been given. All measurements given in micra.

Species	Anterior	Posterior
<i>H. schefferi</i> Chapin.	215 x 123	230 x 138
<i>H. mammoth</i> Chapin.	199 x 138	184 x 154
<i>H. dippiei</i> Rothsch.	169 x 108	169 x 108

**SOME NEW ORTHOPTERA FROM MOKANSHAN, CHINA.**

BY A. N. CAUDELL, *Bureau of Entomology.*

Among a consignment of Orthoptera recently received for determination from Prof. N. Gist Gee, of Soochow, China, were several forms apparently undescribed. All of these are from Mokanshan, China, and descriptions of them are here given. Types and allotypes are retained in the collection of the U. S. National Museum and the paratypes are divided, some being retained in that collection and some returned to Prof. Gee.

**Megaulacobothrus**, n. gen. (Truxalinae).

Agreeing closely with the characters given by Bolivar for his genus *Aulacobothrus* except that the inner calcaria of the posterior tibiae are equal. The species is decidedly larger however than any of those placed in the above genus by its author, and there is probably little relation between the two genera, in spite of the similarity of characters.

*Description, male and female.*—Vertex moderately acute in both sexes, somewhat more so in the male; above slightly convex and without median carina; fevolae distinct, wholly visible from above, about three times as long as broad in the male and slightly less in the female; antennae filiform, those of the male more than twice as long as the head and pronotum combined, those of the female scarcely twice as long; frontal costa nearly flat, somewhat concave at the ocellus, the sides converging almost uniformly, sometimes more rapidly towards the